Regional structures of feeling? A spatially and socially differentiated analysis of UK student im/mobility

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This article explores the patterning of student im/mobility internally within the United Kingdom, using exceptionally detailed student records data on full-time undergraduate entrants from 2014. For this cohort of students, geographic mobility was clearly the preserve of the most socio-economically advantaged, and was less common for Pakistani and Bangladeshi ethnic groups. Significantly, the student's 'home' region emerges as the most important factor driving im/mobility even when social, ethnic and educational differences are held constant. The concept 'structures of feeling' can help make sense of immobility in areas of the North-East, North-West and Wales, where students are likely to look on higher education choice through a different lens of accumulated and contemporary, inter-generational cultural experience. Exploring exceptions to the dominant trends, we also find a more complex patterning of im/mobility that is likely to reflect the deep historical and structural framing of young people's socio-spatial horizons.

Keywords: Mobility, higher education, place, regional identity, social class, ethnicity

Introduction

Historically, going to university in the UK has often been thought of as synonymous with migrating away from home, unlike other European countries such as France, where local study has traditionally been the norm for most students (Holdsworth 2009). This reflected a time when HE in the UK was the preserve of the few, with only a small number of largely elite institutions. Students are now much more likely to stay living at home, or close to home, often to mitigate the increasing costs of HE study (Callender and Jackson 2008). Yet, few studies have comprehensively examined the contemporary patterning of student mobility across different parts of the UK, especially how it varies across the varied 'home' nations and English regions, and intersectionally in terms of classed, gendered and ethnic identities.

When the geography of young people's university choices has been considered in past research, the focus has largely been on their international movements (Brooks and Waters 2010, Holloway et al. 2012), as opposed to internal migratory patterns. Internationally mobile UK students have been found to be largely from privileged backgrounds and are pursuing overseas study partly for pursuit of pleasure and excitement and partly as a strategy

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to differentiate themselves further within a crowded graduate labour market. There have been few comprehensive and sustained analyses of student (non)movements internally within the UK, and a lack of spatially nuanced understandings of the Higher Education (HE) choice process. Yet, the (non-)movement of different groups across the diverse geographies of the UK could help to make sense of not only inequalities within the HE system itself, but also the ways in which spatial divisions are formed and maintained, as well as the relationship between geography and social class.

Existing research on the movement of students internally within the UK has drawn on a variety of understandings about what counts as having been 'mobile', including mobility as distance travelled (Singleton 2010, Faggian et al. 2008), flows across 'home' nations of the UK (Raffe and Croxford 2013), and more localised student movements within and across regions (Duke-Williams 2009). From a 'home international' perspective, Raffe and Croxford (2013) have argued that as political devolution created four distinct *administrative* systems of HE, there has been a concomitant creation of four distinct *social* systems of HE, in terms of the 'home' nations retaining their students to a greater extent. These reduced outward flows of students from the 'home' nations are attributed to the increasingly distinct educational curricular, policies, and funding mechanisms being adopted by the devolved Governments. Our work here builds on this analyses by Raffe and Croxford (2013), and returns to their question of how important English regions and UK 'home' nations are in the migratory flows of students. Using data covering the period 2006-2010, Raffe and Croxford (2013) concluded that it is 'home' nations, not English regions, that are the most significant geographic boundaries in predicting flows of students, and we consider here to what extent this still holds true for all students when using more detailed student level data.

The cultural and political histories of the three devolved nations of Scotland, Wales and Northern Ireland have indeed fostered separate administrative and, to varying degrees, social systems of HE as Raffe and Croxford (2013) argue. However, to de-emphasise regional divisions within England overlooks how the specific *regional* histories of HE within England are interwoven with the broader political economy of Britain's uneven development. The cultural and economic role of the provincial civic universities, to begin with at least, formed part of the broader industrial development of a regional system within England and the UK (Gregory, 1988; Massey, 1995) with distinctive university specialisms in, and links to, local

industry (Anderson, 1995). The industrial towns and cities of the North of England, the Midlands, Wales and Scotland also developed particular diverse and historically shifting forms of industrial working-class culture which partly traversed regional and national boundaries whilst retaining local specificities (Bourke, 1994). However, within England these peripheral industrial regions developed in a specific relation to the South-East and the financial, commercial and cultural centre of London (Robson, 1986). Unlike the now devolved nations, in the North of England there was no alternative 'national' identity which could be turned to after the catastrophic de-industrialisations of the 1980s. Instead, what has remained is a strong sense of a peripheral, *dominated* position within England, an industrial legacy that still determines local identity and distinctive forms of local attachment to home, neighbourhoods and cities (Taylor et al., 1996; Charlesworth, 2000). It is these forms of local attachment which have been seen as central in understanding working-class students' preferences to stay local when attending university (Holdsworth, 2006; 2009; Clayton et al., 2009). However, the *regional* implications of this for examining student migration within England have to some extent been overlooked.

In this paper, we examine how *regional* as well as national boundaries form distinctive socio-spatial systems of HE which can be detected through exploring patterns of regional mobility on entry to university. We do not begin our analysis here with the assumption that the immobility of students is necessarily problematic, rather, we are concerned to understand how patterns of im/mobility are tied up with wider societal issues of social/ethnic segregation as well as the (re)production of class advantage. This link between the migratory patterns of students and wider societal inequalities is an important contribution to the debate on social justice and higher education choice.

Data and methods

Our information on the migratory flows of students comes from the Higher Education Statistics Agency (HESA), and we use a specially requested data-set that provides an exceptional level of detail on individuals in HE. HESA is the organisation responsible for collecting data from all HEIs across the four 'home' nations, providing comprehensive coverage and a granular level of detail on students. Our data-set includes information on all UK domiciled students (412,739) who enrolled in their first full time undergraduate degree

course in 2014. In restricting our analyses to 'traditional' full time students studying on face-to-face degree programmes, we recognise that the analyses excludes a significant number of part-time and distance learning students, many of whom are often considered as a 'widening participation' student demographic. However, as students undertaking undergraduate part-time study and degree programmes are positioned very differently to the 'traditional' full-time face-to-face learner, it would not be appropriate to combine the two groups in the analyses, as it would not be comparing like with like. Indeed, the purpose of distance learning programmes is to remove the need for mobility, and these students, together with part time learners, are more likely to have particular sets of personal circumstances that place restrictions on their geographic mobility.

Our data on full-time undergraduates entering HE in 2014 contains a rich level of detail including student social and demographic information (gender, age, ethnicity, socio-economic classification, parental education, home postcode, previous school attended, and prior attainment) as well as HE destinations data (institution attended, course of study, type of term-time accommodation). These data provide the basis for an analysis of relationships between regional im/mobility of students and social, demographic and educational characteristics. In terms of controlling for social background, a range of variables are used in our analyses to account for limitations of any single measure. In terms of the socio-economic classification variable, this uses the NS-SEC (Rose et al., 2005) which categorises students on an 8-point scale according to their self-reported parents' occupation. Whilst this classificatory measure of social class has been criticised on account of missing data as well as broader theoretical debates around the theoretical understanding of class underpinning the NS-SEC (Savage, 2000; 2003), it avoids some of the shortcomings of purely economic measures (such as free school meals) and gives a more nuanced account of the positioning of social groups by occupation. To try to address some of the shortcomings in NS-SEC, this measure is augmented with data on parental education (whether or not parents are degree educated) and private/state schooling; two further indicators that might capture other dimensions of an individual's social background.

Figure 1: The official nations and regions of the UK.

In exploring the mobility of students, our basic units of spatial analysis are taken from the European Union-defined Nomenclature of Territorial Units for Statistics (NUTS) 1 classification (figure 1), which encompasses the 9 statistical regions in England (North-East, North-West, Yorkshire and Humberside, East-Midlands, West-Midlands, South-West, South-East, East, and London) as well as the 3 minority 'home' nations of the UK (Scotland, Wales and Northern Ireland). Our analysis takes account of economic, political and social divisions that exist across both English regions and 'home' nations by exploring student mobility across *both* sets of geographic boundaries. Student's geographic origin is based here on their pre-university home postcode and their geographic destination is based on the main location of their university. For the purposes of our analysis, student mobility is measured in terms of whether a student is studying at a university based in a region that is different from their geographic origin. 'Mobile' students are therefore considered here to be those enrolled at a university outside of their region of origin and 'immobile' students enrolled at a university based within their region of origin. In adopting this measure of mobility, we acknowledge its possible limitations in terms of the specific location of individual students within regions, which may mean a move for some students is not comparable with a move for others in terms of their distance. However, this drawback is to some extent inevitable when attempting to make geographically meaningful, and place-based, analyses of mobility propensities, and a key contribution we are making here is to consider the role *place* and regions play in im/mobility propensities.

Exploring regional student im/mobility

Around half (47%) of those entering HE in 2014 were regionally mobile, with the remaining students staying regionally local for their studies. Set against these broader trends, a larger degree of variation exists between regions, especially when drawing comparisons between the four countries of the UK. Table 1 shows a migration matrix for HE students, with students' 'home' region displayed horizontally and their 'destination' region running vertically. It shows *where* students from different 'home' regions end up for their university study. Compared to the national average, 7 regions have above average rates of mobility (marked by a solid line: East, South-East, London, South-West, West-Midlands, East-Midlands and Yorkshire and Humberside) and 5 below average mobility rates (marked by double lines: Wales, Scotland, Northern Ireland, North-East and North-West).

Table 1: Geographic origins and destinations of students (2014/2015 cohort)[2]

% within region of origin

		Origin												
		North-East	North-West	Yorkshire and The Humber	East-Midlands	West-Midlands	East of England	London	South-East	South-West	Wales	Scotland	Northern Ireland	Total
Destination	North-East	65.7%	3.9%	8.9%	3.4%	1.2%	2.5%	1.4%	2.2%	1.5%	0.8%	0.7%	3.1%	4.9%
	North-West	6.9%	62.5%	12.6%	7.6%	8.9%	4.0%	3.1%	3.4%	3.5%	10.5%	0.8%	9.2%	12.0%
	Yorkshire and The Humber	12.8%	13.8%	54.1%	16.6%	5.8%	7.2%	3.2%	4.3%	3.2%	2.5%	0.4%	1.4%	9.8%
	East-Midlands	2.5%	3.5%	8.1%	42.6%	11.0%	12.5%	5.5%	6.5%	3.1%	2.3%	0.2%	1.0%	8.1%
	West-Midlands	1.5%	3.8%	3.2%	9.1%	51.5%	6.1%	4.9%	5.5%	5.7%	3.7%	0.4%	1.0%	8.8%
	East of England	1.0%	0.9%	1.4%	3.8%	1.5%	28.6%	8.7%	4.9%	2.0%	1.0%	0.3%	1.0%	5.5%
	London	3.3%	3.4%	3.9%	5.3%	4.4%	14.4%	50.3%	16.2%	8.2%	3.8%	0.9%	1.9%	14.3%
	South-East	1.6%	2.2%	2.3%	4.8%	4.4%	14.7%	14.8%	37.8%	14.4%	4.6%	0.5%	1.8%	11.4%
	South-West	1.1%	1.8%	1.8%	3.8%	5.9%	6.6%	5.3%	13.9%	48.2%	10.0%	0.4%	1.6%	8.6%
	Wales	0.7%	2.4%	1.2%	1.9%	4.5%	2.1%	1.3%	3.7%	8.9%	60.1%	0.2%	1.1%	5.3%
	Scotland	2.9%	1.6%	1.6%	1.0%	0.6%	1.3%	1.1%	1.3%	1.2%	0.6%	95.1%	6.7%	8.6%
	Northern Ireland	0.1%	0.1%	0.1%	0.1%	0.3%	0.1%	0.6%	0.1%	0.1%	0.0%	0.0%	70.2%	2.6%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

To some extent, the patterns identified here reflect Raffe and Croxford's (2013) notion of distinct social systems of HE in the UK, with those educated in minority 'home' nations largely remaining there for their university study. The 95% of students originating from Scotland are likely to remain living there for their studies owing to the Scottish Government policy of free tuition for Scottish domiciled students. In contrast, this pattern of economic rationality does not seem to be repeated to the same extent for Northern Irish (NI) students. A much larger proportion (30%) of NI students move out of NI than you might expect given

[2] *Note:* Transparent borders represent regions with below average rates of mobility and solid borders represent regions with above average rates of mobility

the higher fees this movement entails (£3,925 to study in NI as opposed to £9,000 elsewhere in the UK).

Whilst the significant degrees of immobility from Scotland, Northern Ireland and Wales largely reflect Raffe and Croxford's (2013) social systems model of HE, there is also evidence that some English regions can override this general trend, and are almost social systems in themselves. The North-East and North-West both have a higher proportion of immobile students than Wales, and only slightly less than Northern Ireland. This is withstanding the administrative distinctiveness of Wales and Northern Ireland, in terms of the nature of their education systems and funding mechanisms. It could be that in some cases the distribution of universities and courses could go some way to explaining these im/mobility propensities. For example, the sparsity of universities in the East of England (especially highly selective universities) might explain the high proportion of movements away from this region (71.4%). At the same time, other regions have seemingly inexplicably high rates of immobility compared to others with similar distributions of universities. For example, despite the North-East having a similar range of universities as the South-East, it has a much higher proportion of its students remaining in this region for the university study (65.7% of students in the North-East are regionally immobile compared to 37.8% in the South-East).

Movements between Wales, Scotland and Northern Ireland are noteworthy in other ways. When a student moves out of one of these minority 'home' nations they largely do so in order to enter England – not a different minority home nation. The Scottish don't tend to migrate to Wales or Northern Ireland, and the Welsh don't migrate to Northern Ireland or Scotland to any large extent. Neither do the Northern Irish tend to move to Wales (but they do go to Scotland). There are a number of possible explanations here. It could be understood in terms of access to educational opportunities, with those migrating away from their 'home' nation to access particular universities or courses. It could also be to do with a student's sense of their minority national identity. Could their nationalism be easier to maintain in a more pluralistic England? Is there also something about *social proximity* here – Northern Irish students have a strong preference for the North-West – do they feel socially similar to North-Western English identity? Or can this pattern be explained by the history of migration to this region, or transport connections perhaps?

In terms of gender, regional im/mobility seems to be an equally experienced phenomenon, with males just as likely to be mobile than females, and only slightly more females being immobile (55%) than mobile. However, regionally mobile and immobile students are not socially and ethnically homogenous groups. Being regionally mobile is clearly the preserve of those students from the highest NS-SEC groupings, with two-thirds of those classified in group 1 (higher managerial, administrative and professional occupations) moving out of their region of origin to study compared to less than a third from group 8 (never worked and long-term unemployed). In between these two top and bottom NS-SEC categories, there is a more mixed mobility patterning, yet it is clear that a linear relationship exists with greater propensities to be immobile the more disadvantaged groups become. As a further indicator of advantage, those who are mobile are also more likely to have degree educated parents, with 51% of mobile students having a parent who attended university and around a third (36%) of this mobile group not having parents with degrees. Independent of their occupational classification, it could be that some degree educated parents who themselves migrated away from their 'home' region might hold on to the idea of going to university as 'moving away' and shape their child's thinking in the same way.

Private education, which is largely fee paying in the UK, can be seen as an important indicator of advantage, since it captures both the economic advantage a family may hold as well as particular classed strategies within diverse education markets (Ball 2002). Strikingly, around three-quarters (74.6%) of those attending private schools go on to be geographically mobile from their 'home' region, compared to less than half (45%) of their state educated counterparts. Moving away from your 'home' region appears to be the norm for the privately educated, with a minority staying in the local region (although we show later this is also spatially nuanced). This is in line with the older, more prestigious universities, especially Oxbridge with other provincial universities seeking to adopt and adapt their model, developing in close relation to the elite private boys' boarding school (Anderson, 1995; Holdsworth, 2009) where spatial mobility was the assumed norm for middle-class and elite students.

Past research on the migratory propensities of students has also revealed a distinct patterning across different ethnic groups (Khambhaita and Bhopal 2015), which is also evident in our data. White, Black, Indian and Chinese ethnic groups are each equally as likely to be mobile

or immobile from their 'home' region, whilst Bangladeshi and Pakistani students are much more likely to be immobile. Indeed, nearly four fifths of Bangladeshi students (78.1%) and nearly three-quarters of Pakistani students (71.1%) are geographically immobile. In examining these two immobile ethnic groups more closely, it is clear that their immobility does not seem to be associated with gender, as has been suggested could be the case (Bhopal 2011). Within the immobile group of students, just over half of the Bangladeshi students are female (53%), and just under half male (47%), with the same gender pattern repeated for Pakistani immobile students. That is not to say that the *process* driving immobility patterns may not be different, with the kind of factors identified by Bhopal (2011) around family obligations and objections, likely to be important in driving the immobility of Pakistani and Bangladeshi females.

Given the regional variations in HE opportunities, both in terms of the distribution of different types of university (including the geographic spread of highly selective universities) as well as degree courses, you might also expect regional im/mobility patterns to be related to the university and course choices of students. Indeed, many regions of the UK have few highly selective universities, and offer a limited range of opportunities to study particular courses. To examine the importance of university selectivity in predicting mobility, we grouped universities according to mean UCAS tariff scores of their student intake, dividing the population of institutions into groups on the basis of the tariff scores of their 2014 entrants. Tariff points are the system for comparing different grades across different qualifications awarded in the UK. A majority of students across England, Wales and Northern Ireland (Scotland has a different system), will enter university with A-levels. For these exams the top grade, A* is valued at 56 points with the bottom grade, with the 'value' of an A-level decreasing by 8 through grades A to E. Calculating the mean UCAS score for entry to each university produced five groups of universities with similar levels of selectivity. For those institutions with the lowest average tariff points (Group 1), nearly two thirds (58.7%) of their intake are from the same region, contrasted with around a quarter of students from the institutions with the highest average tariff points – Group 5 (24.7%). These patterns illustrate what may be regarded as *national* and *local* recruitment patterns for different universities, with some institutions drawing their catchment at a national level and others clearly deriving the majority of their intake locally.

A similarly high degree of variation exists at the subject level of educational provision, which makes sense given the geographically uneven spread of degree courses across the regions of the UK. Medicine and Veterinary Sciences, two specialist courses offered by few universities, have the most regionally mobile group of students (66% and 76.4% respectively). A number of other subjects have more mobile cohorts, including physical sciences (60.3%), languages (61.2%) and historical and philosophical studies (61.4%). Aside from these subjects, the majority of courses have around an equal share of mobile and immobile students, with only computer science and education having largely immobile cohorts (64.7% and 71.6% respectively). The impact of institutional average tariff points therefore appears a much stronger factor predicting patterns of im/mobility than course type, although these two variables are also inextricably linked.

Taken together, geographic location, social background (including socio-economic status and ethnicity), and HE choices all seem individually important in driving patterns of student im/mobility. Yet, basic descriptive analysis of this kind tell us little about the strength and power of each factor relative to each other. The question is, just how important each factor is in shaping mobility propensities whilst holding all others constant, in terms of their competing effects. For example, do ethnic disparities in im/mobility remain when taking into account social class, educational choices, and geographic location? If social class, ethnicity and educational choices are held constant, do the regional im/mobility disparities remain? Or are people of similar social class and ethnic backgrounds similarly likely to be (im)mobile regardless of their 'home' region?

Modelling im/mobility propensities

To explore the importance of individual factors in predicting the regional mobility of students, multivariate analysis is used here. Multivariate analysis involves using regression modelling, in this case binary logistic regression, to estimate how mobility out of 'home' region is influenced by different factors together. In this way, a set of baseline characteristics are held constant in order that factors associated with regional mobility can be identified. The outcome variable analysed here was mobility out of 'home' region for HE study, with the statistical model predicting the importance of different factors in the chances that a student moves out of their 'home' region as opposed to remaining in the region. Table 3 displays the outputs of 3 models with different groups of factors included, to illustrate the effect of social

background (model 1), social background and educational choices (model 2) and social background, educational choices and geography (model 3). The results are shown here in the form of odds ratios, with a greater likelihood that a student will be mobile if the value is above 1.00 and a reduced likelihood that mobility out of home region will occur if the value is below 1.00. For each variable included in the models, 'dummy' variables are created with comparisons made against a reference category. For example, when looking at ethnicity, White groups are the reference category with other ethnic groups compared against this in terms of their strength in predicting mobility.

Table 2: Binary logistic regression results as odds ratios for probability of moving out of 'home' region/country

	Model 1	Model 2	Model 3
Gender (Ref. Male)			
Female	.873**	.867**	.888**
Other	1.028	.899	1.174
Age – under 25	4.191**	3.657**	3.714**
Ethnicity (Ref. White)			
Black/Black British – Caribbean	1.141**	1.209**	.983
Black/Black British – African	1.499**	1.636**	1.321**
Other Black background	1.111	1.183**	.968
Asian/Asian British – Indian	1.053**	1.054**	.800**
Asian/Asian British – Pakistani	.469**	0.503**	.454**
Asian/Asian British – Bangladeshi	.350**	.359**	.283**
Chinese	1.455**	1.296**	1.133**
Other Asian background	1.005	1.023	.807**
Other (including mixed)	1.111**	1.087**	.886**
Ethnicity not known	.963	.917*	.818**
Parental education (Ref. Degree educated parent)			
Parent without degree	.777**	.827**	.764**
Don't know	.742**	.808**	.769**
Not known	.717**	.761**	.759**
Education sector (Ref. Privately educated)			
State educated	.389**	.484**	.539**
Unknown	.426**	.550**	.650**
NS-SEC Category (Ref. Higher managerial, administrative and professional occupations)			
Lower managerial and professional occupations	.821**	.861**	.883**
Intermediate occupations	.724**	.771**	.805**
Small employers and own account workers	.659**	.708**	.743**
Lower supervisory and technical occupations	.649**	.702**	.732**
Semi-routine occupations	.571**	.632**	.676**
Routine occupations	.526**	.581**	.622**
Never worked and long term unemployed	.350**	.416**	.493**
Not classified	.595**	.632**	.660**
University average entry tariff points (Ref. Group 1: below 321)[3]			

[3] We grouped the universities according to the mean UCAS tariff point score of their student intake, dividing the population of institutions into deciles on the basis of the tariff scores of their 2014 entrants. This created five groups of universities each varying in their tariff point range as presented above.

Group 2: 322 – 409		.877**	1.317**
Group 3: 410 – 467		1.972**	2.208**
Group 4: 468 – 488		1.003	3.091**
Group 5: above 489		2.391**	3.053**
Degree subject (Ref. Medicine & dentistry)			
Subjects allied to medicine		.612**	.594**
Biological sciences		.796**	.706**
Veterinary science		1.884**	1.714**
Agriculture & related subjects		1.371**	1.171**
Physical sciences		1.033	.928*
Mathematical sciences		.954	.770**
Computer science		.506**	.491**
Engineering & technology		.746**	.780**
Architecture, building & planning		.690**	.701**
Social studies		.824**	.710**
Law		.709**	.672**
Business & administrative studies		.771**	.755**
Mass communications & documentation		.935**	.866**
Languages		1.088**	.894**
Historical & philosophical studies		1.073*	.883**
Creative arts & design		1.049	.918**
Education		.476**	.439**
Combined		1.356**	.881**
Geographic origin (Ref. North-East)			
North-West			1.099**
Yorkshire and the Humber			1.682**
East-Midlands			2.817**
West-Midlands			2.276**
East of England			5.175**
London			2.030**
South-East			2.701**
South-West			2.027**
Wales			1.480**
Scotland			.049**
Northern-Ireland			.783**
Constant	*1.055*	*1.002*	*0.497***
Nagelkerke R Square	*0.120*	*0.161*	*0.295*

*$p < 0.05$

**$p < 0.01$

Model 1 results show the effect of the background variables taken together, but not including educational and geographic factors. It shows that females are nearly just as likely as males to be mobile from their home region, but that the likelihood of being mobile is greatly reduced for students from less advantaged backgrounds. Indeed, compared to the top NS-SEC group, a clear linear pattern emerges; as you descend the NS-SEC classes, the chances of migrating away also reduces. Other indicators of socio-economic advantage also illustrate its importance, especially the impact of private education, with state educated students much less likely to be mobile compared to their private educated counterparts. The ethnic variations in mobility apparent in the descriptive statistics remain even when controlling for these socio-

economic variables, with Bangladeshi and Pakistani groups less likely to be mobile compared to White students. *Model 2* includes the addition of educational choices, including the course choice and average tariff points of the university the student applied to. The addition of these variables does little to change the importance of socio-economic status and ethnicity. However, it does show that the selectivity of a university is more powerful in predicting movement out of 'home' region than many of these background factors. Those attending the most selective universities (Groups 3 and 5) are over 2 times more likely to be mobile from their home region compared to the least selective (Group 1), even when background factors are held constant. Course choice itself appears less important than was implied by the descriptive analysis presented above. Medicine is the reference category here, and Veterinary science is the only course that stands out, with these students twice as likely to migrate away as medical students. Most courses appear to have little bearing on whether a student will migrate away from their 'home' region.

The importance of geographic location emerges as the most significant determinant in predicting migratory flows from 'home' region according to *Model 3*. This final model adds the student's geographic location, and does little to change the social background and ethnic patterns identified from the previous two models, with the exception of explaining a smaller amount of the variation by NS-SEC category and private schooling. However, the selectivity of institution attended becomes more important when taking account of geographic location. Importantly, this final model illustrates that geographic location *itself* is by far the strongest predictor of regional im/mobility, even when taking into account social background and educational choices. In every region apart from Scotland, Northern Ireland and the North-West, students are much more likely to be regionally mobile compared to the North-East. The East of England emerges as the strongest predictor of mobility, with students here 5 times more likely to be mobile compared to the North-East, even when holding constant all other factors. Those in the South-East and East-Midlands are nearly 3 times more likely to be mobile than those in the North-East. Similarly, London students and those in the South-West are twice as likely to leave their regions compared to students in the North-East.

Taken together these models illustrate that geographic location and the selectivity of institution attended are the strongest predictors of regional im/mobility controlling for other variables. *Where* students live in the country, and the selectivity of the university they apply

to, are more important in predicting mobility from 'home' region even withstanding their socio-economic status and ethnicity.

Staying local: economic rationality, place, and belonging

The trend for staying regionally local for HE study can be explained on a number of levels, including economically, socially and culturally. In one sense, staying regionally local could be a strategy lower social class groups adopt to mitigate the increasing costs of HE study. Indeed, students from low-income backgrounds in Callender and Jackson's (2008) study adopted economically rational strategies such as choosing a university with low living costs and which offered good term-time employment opportunities. The fear of building large amounts of personal debt may also mean those from lower social class backgrounds opt to live at home and avoid high student accommodation costs (Davies et al. 2008).

Those who remain regionally local may also attach greater importance to immediate family connections and staying in direct contact with their family and wider social network at home, as evidenced in earlier work (Leonard 1972, Pugsley 2004). Clayton *et al.* (2009: 169-170) highlight how working-class experience of spatial mobility, either through local commuting, or moving away, involves maintaining strong bonds to home, through compartmentalising friendships or resisting full integration into university life. Taking this further, more recently, Holton and Finn (2017) have argued in analysing students who commute, in students' everyday lives there is no clear linear hierarchy of spatial mobility as a middle-class norm and im-mobility of working-class students. Beneath the broad statistical patterns that we discuss below are more complex daily routines weaving together different spaces and emotional attachments while negotiating life at university.

The enduring importance of regions *themselves* in predicting regional mobility, even after holding constant social background and HE choices, suggests that regional attachments could differ across the UK. It might not necessarily be the case that students from the same social class group feel an equally strong degree of attachment to their region of origin. Indeed, our data suggests that those in the North-East and Wales have similarly higher propensities to stay local, irrespective of social background. This suggests that regional attachments may vary across the country. Rees *et al.* (1997: 492-494) argue that particular 'learner identities' and patterns of educational trajectories are likely to be regionally and locally specific. They

discuss this directly in relation to South Wales noting the specific politics and culture associated with the industrial identity of the valleys. It is worth considering how these historical regional identities are reflected in the collective patterns of HE choice which mark out Wales, the North-East and to a lesser extent the other northern regions as places of greater immobility.

Wales and regions in the North of England all contain stronger concentrations of formerly industrial working-class neighbourhoods across cities, towns and villages. Within these regions there are concentrated areas of what post-war sociologists characterised as neighbourhoods associated with working-class localism (Young and Willmott, 1957; Hoggart, 1957). And yet, these connotations of spatial immobility and local attachment associated with industrial working-class communities are not straightforward. Both historically and in the largely post-industrial present these local attachments and choices about mobility were always varied and more complex than was first suggested (Bourke, 1994: 111-137; Thomson and Taylor, 2005).

Despite these caveats it is still plausible that working-class young people in areas of the North-East, North-West and Wales look on HE choice through a different lens of accumulated and contemporary, inter-generational cultural experience. This distinctive local 'structure of feeling', to use Raymond Williams (1977) term, perhaps shapes mobility decisions differently in these peripheral post-industrial regions compared with large parts of, for example, London, where the working classes have had very different historical and spatial trajectories. Taylor *et al.* (1996) elaborate on this concept in their study of Manchester and Sheffield to describe the *local* specificities of current attitudes and historical experience shaped by industrial pasts, landscapes and contemporary post-industrial economies and cultures. Whilst there are differences across the two cities, in the experience of 1980s de-industrialisation there is something that ties them together as peripheral places set against the economically and socially dominant south.

Whilst the Welsh experience is tied to a *national* identity as opposed to a regional one, this sense of peripheral-ness, this spatial economic subordination to London and the South-East, is still very much present. Rather than simply a *local* structure of feeling, we would argue that one interpretation of the regional variation in spatial im/mobility on entry to university is a *regional* structure of feeling too. These accumulations of regional ties, ways of being and

speaking (and accent styles), familiarity of landscapes and city-scapes - all play into students' sense of self and feelings of fitting in. This deep historical and structural framing of young people's socio-spatial horizons represents a central yet under-theorised way of understanding the spatial patterning of student migration and HE choice.

A mobile middle-class?

Against this tendency amongst the peripheral regions towards 'immobility' on entry to university, our model strongly re-asserts the evidence for the normative trajectory of middle-class spatial mobility on entry to university. Holdsworth (2009: 1856-1857) argued that the model of HE as an elite finishing school where middle-class students lived and studied at university and away from home, remains powerful in shaping dominant discourses around university experience. Indeed, our findings confirm what appears to be a normative middle class trajectory of moving out of home and far away for university study.

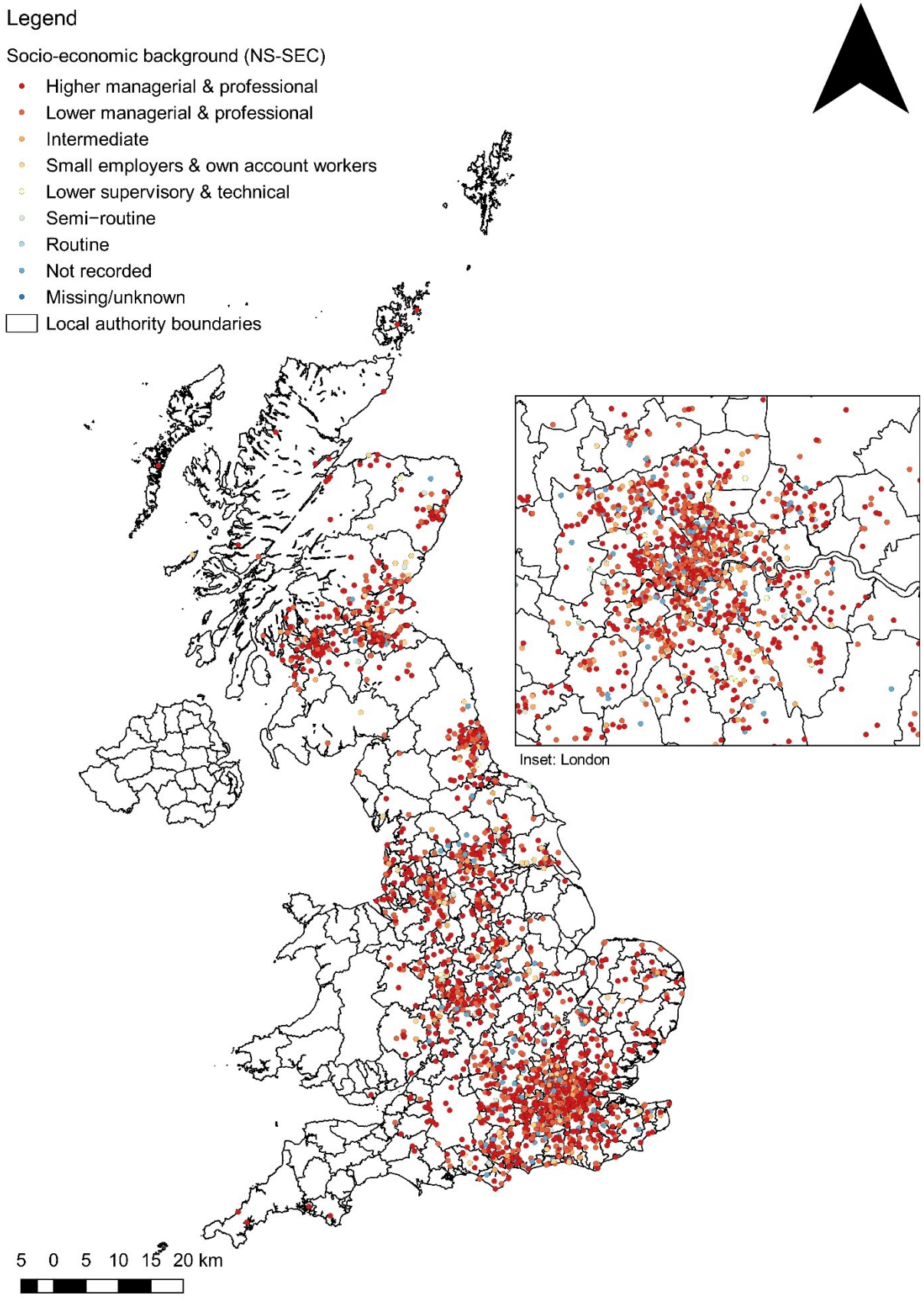
To explore these patterns further, we wanted to examine students whose spatial movements across regional boundaries (or lack thereof) were not being explained by our model. Using outlier standardised residuals (we set a threshold of 2 standard deviations or more above or below the mean residual score) from model 2,[4] we were able to find evidence for a significant minority of largely white-British middle-class students who were regionally *immobile* for reasons that the model could not explain. Of these unexpectedly immobile students (n=3218), 55% were in NS-SEC 1 and a further 27.3% in NS-SEC 2 whilst 72% were of white British ethnicity, British-Indian students were the next most significant ethnic group forming 8.1% of the total[5]. As we can see in figure 2, these students are also strongly concentrated in three regions, London, the South-East and Scotland, who together account for just over 70% of all these unexpectedly immobile outlier students. These regional concentrations were confirmed by location quotients (LQs) calculated using the outlier residuals for these students. These LQs show how concentrated the outlier residuals are relative to the number of students from each region compared to the percentage of these outliers in the UK as a whole. Only four regions/countries (Scotland, 2.5, London 1.9, South-East 1.4, North-East 1.1), had larger

[4] Model 2 was chosen to allow us to examine the geography of outlier residuals without including region in the model itself. The standardised residuals mapped in figure 2 vary between -1.96 and -4.90, -4.22 is actually the lowest value.

[5] This reinforces work done elsewhere showing the partial alignment of the British-Indian middle-class with conventional educational practices of white British middle-class students (Abbas, 2007).

concentrations of these students than the UK-wide figure. In Scotland the unexpectedly immobile were 2.5 times more concentrated than for the UK as a whole; in addition to the impact of free tuition in Scotland, these students' affluent backgrounds could also suggest distinctive regionally immobile circuits of middle-class and elite social reproduction. The overwhelming majority of these students attend prestigious and academically-selective universities, with the majority in each region also living away from home. Only London has a significant minority of students still living at home. There is also little variation in subject choice; slightly higher percentages studying medicine, biology, physics, history and languages indicate that these students stick to 'conventional' middle-class dominated subjects. The key point of clarification to early work underlines the fact that spatial mobility is of lesser importance when a nearby elite institution is accessible. There are further regional and urban implications to this, which are worth examining in greater detail.

Figure 2: Non-predicted 'immobility' by social class



For students in London and the South-East, the presence of these 'Golden Triangle' (Wakeling and Savage, 2015) institutions (Oxford, Cambridge, UCL, LSE, KCL, Imperial) is almost certainly key to explaining the cluster of unexplained middle-class immobility in and around the capital. Oxford, Cambridge, Imperial, University College London, Kings College London, Imperial and Queen Mary all each recruit over a hundred of these unexpectedly immobile NS-SEC 1-2 students from their own regions. The particular micro-geography of these students within London suggests that these students were brought up within the affluent West and North London neighbourhoods where the city's cultural, legal and financial elites have been shown to be clustered (Cunningham and Savage, 2015). This implies a distinctive regional patterning of middle-class and elite reproduction in London and the South-East. Immobility is a logical strategy when nationally and internationally elite institutions are located in your home region. Some students never step off the escalator of London's economic and cultural accumulation (Fielding, 1992) but remain fixed within the orbit of London's elite metropolitan vortex (Cunningham and Savage, 2015).

In Scotland there are similar patterns along NS-SEC lines though interestingly the largest numbers of regionally immobile Scottish middle-class students are at Aberdeen (n=223) and St. Andrews (n=339) rather than Glasgow or Edinburgh who receive only 25 each. This suggests that when these more affluent students stay in Scotland they still leave their home city. The fee difference is almost certainly behind broader patterns of immobility seen in the model (table 3), but in addition to these fee differentials, for the professional and managerial middle class, these circuits of immobility could also reflect the *distinct* Scottish set of elite ancient universities which dominate access to elite and professional positions in Scottish society (Keating and Cairney, 2006; SMCPC and David Hume Institute, 2015). This unexpected immobility in Scotland further suggests the production of a national elite in a way that is less clear in Wales and Northern Ireland despite fee differences across the three countries.

Across the other English regions, it is the North-East that again suggests a particular regional specificity with a strong cluster of regional immobility amongst the middle classes on Tyneside. This might perhaps be driven by its spatial distance from other urban centres, the presence of Newcastle and Durham universities as well as the distance from the dominant institutions of the 'Golden Triangle'. The pockets of immobility for higher social class

groups found in pockets of the North and West-Midlands could perhaps be accounted for by a stronger sense of regional identity for these students. As Byrne (2002) argued, the particular 'industrial' structure of feeling in the North-East was never exclusively the preserve of working-class residents but formed part of a broad and deep set of regional identifications. The strong regional immobility for the North-East found in the model is also present amongst a segment of the north-eastern middle-class, highlighting possible regional and educational distinctions within the middle class. More broadly these findings suggest how middle-class norms of spatial mobility vary within England in ways that previous research has not examined. In fact, these findings underline the limits of a 'national' system of social classification which is not sensitive to the distinctive local and regional histories of education and urban and economic change which provide the deep framing for students' choices about HE.

Conclusion

Whilst national *administrative* boundaries within the UK have certainly exacerbated social distinctions in patterns of student migration, the implicit assumption that these national models elide with 'social systems' in ways that regions do not is insensitive to the distinctive differences of regional student flows and hierarchies of universities. Internationally, the case for the distinctive role of universities within particular regions has been stated quite clearly by Boucher *et al.* (2003) largely in reference to the distinctive economic and academic roles of universities in peripheral or core regions. We suggest here however, that universities are also bound up in specific cultural and economic regional histories and histories of class formation in ways which perhaps underpin particular patterns of student migration. We wish to take seriously Byrne's (2002) argument that the North-East continues to be bounded by an industrial structure of feeling which includes not only the post-industrial working class but also the post-industrial middle class. This adds complexity to our reading of 'immobility' or 'localism' on entry to university. Staying local or within one's home region remains strongly associated with students' from ethnically and geographically diverse working-class backgrounds. A major contribution which we make here is in the need to see these 'local' choices as woven into regional cultural and economic histories which are intertwined with the spatial division of labour (Massey, 1994; Massey, 1995) and continue to shape students' 'practical consciousness [...] in a living and interrelating continuity' (Williams, 1977: 132). Attachment to region in this case is very much tied to space, place and industrial heritage,

with qualitative work in Wales suggesting how the regional patterns we detect here may filter down into subjective choices (Donnelly and Evans, 2016). In looking for explanations of regional patterns of immobility, which draw on geographical and cultural studies, we wish to draw out a subtle understanding of the role of space and place which has perhaps been missing from some quantitative analyses of spatial patterns of student migration.

Situating our understanding of mobility and immobility for university within an understanding of regional economic inequality provides a new perspective on the mobilities debate. As Finn and Holton's (Holton and Finn, 2017; Finn, 2017) work highlights, there is no simple binary between middle-class mobility and working-class im-mobility, the everyday lived-reality of university life is more complex and hybrid than earlier work might have suggested. Observing patterns of spatial mobility at the regional scale is not meant to imply a judgement on the act of being mobile or not. Framing our analysis within an understanding of the structural conditions determined by historical regional economic and cultural inequalities, highlights how not all forms of regional mobility or im-mobility are equal in their economic implications for people's lives. It is not the act of being regionally mobile or not in itself which matters, it is the broader geography of uneven economic development which students' spatial trajectories are located in which determines the structure of local opportunities on graduation. These past economic geographies of abandonment and decline, the centralisation of financial wealth and investment on London and the South-East (Massey, 1995; Lee, 2009), are not how students necessarily consciously understand or make their choices, but they are the structural conditions in which being spatially mobile over long distances gains cultural, social and economic value. Viewed through this lens, the regional mobility of students becomes an act which is intrinsically political, as students are navigating not only a set of choices about university but a terrain of economic and cultural development in which certain areas have long been deliberately marginalised and have become more so since the de-industrialisation of the 1970s and 80s. Mobility for university *ought not* carry any symbolic value, the fact that it does is testament to a persistent class culture discussed elsewhere (Holdsworth, 2009), and a deeply uneven economy in which mobility provides both symbolic prestige and practical advantage.

Understanding race, class and gender in education in the context of students traversing these regional divides means re-thinking how we use these categories within the sociology of education. If we see these forms of identity and social structure as deeply embedded in local

and regional histories, then it is no longer sufficient to merely think 'nationally' at either the British or even the English scale. For example, whilst there hugely important cultural and religious similarities, second and third generation British-Pakistani students face drastically different possibilities in Bradford or the smaller milltowns of west Yorkshire and Lancashire compared to their peers in Newham. That is true when it comes to the structure of local opportunities on leaving school or university, but it is also true in terms of the dispositions and her/histories of migration and un/employment passed down from parent or grandparent to the next generation. Much has been written in the sociology of education about the flaws of 'methodological nationalism' in an increasingly globalised world (Robertson and Dale, 2008), but this criticism has generally not been directed 'downwards' towards how our understanding of gender, race and class ought to be nuanced at and by the local and the regional scales of social life. This spatially and historically sensitive analysis of race, gender or class is by no means new (McDowell and Massey, 1984; Jackson, 1992) and it has been taken up in recent ethnographic work (Bright, 2016). Most qualitative work in the sociology of education, however, does not root its understanding of social categories in time and space in this 'thick' extensive. If this is true for some qualitative approaches to the sociology of education, it is even more true of quantitative analyses of the sociology of education. Perhaps partly due to the frequent use of cohort studies data with their more limited geographical detail, the spatial differentiation of social categories and their embedding in different histories has been far from the agenda.

Our analysis indicates then that it is highly problematic to make clear-cut class-based distinctions between advantaged 'mobile' young people and the disadvantaged 'immobile'. Looking beyond this simplistic dichotomy, the analysis presented here implies that patterns of social and ethnic segregation, as well as the (re)production of advantage, are inextricably tied up with the im/mobility choices young people make on entering university. The 'problem' of immobility, implied here, is not so much about the act of moving, but more about the places different social class groups move (and do not move) *from* and *to* – and the ways in which these place-based choices are inextricably tied up with patterns of social/ethnic segregation and the (re)production of advantage.

Returning to the quantitative analysis of mobility and class offered here, middle-class (NS-SEC 1-2) students who are regionally immobile in the North-East may also be part of this 'regional structure of feeling' in ways which only further qualitative work would be able to

elucidate. But our analysis, and most importantly how we frame it, also suggests the need for greater nuance in theorising class, entry to higher education and spatial mobility. Regional immobility by a minority of middle-class students runs counter to the narrative of middle-class mobility as part of a normative trajectory into university (Holdsworth, 2009). Even within this minority there were clear distinctions. As Wakeling and Savage (2015) have shown, there is a clear contrast in likely future social position of students who are strategically immobile and living in London or the South-East attending a 'golden triangle' university, and those living in other English regions who attend a local Russell Group institution. Our work here highlights the need to unpick spatial mobility as it meshes with social class and ethnicity, with the exceptions to normative assumptions underlining how we need greater differentiation in our understanding of spatial trajectories on entry to university. We also need to disaggregate social class categories themselves – regional variation amongst a minority of unexpectedly immobile students flags regional and Scottish distinctions *within* the British middle class.

The spatialisation of class (Parker et al., 2007; Savage et al., 2013) has become increasingly central to new approaches to social class in sociology. Yet educational research has not tended to draw on these contemporary or earlier studies (Savage et al., 1995) to combine quantitative analyses with rich cultural and political-economy approaches to understanding historic and contemporary divisions of class and space. Geographies of student migration and education more broadly need to look for greater subtlety and nuance in their analysis of student movement *within* social classes. Analysis of administrative data allows us to draw out these broad geographical patterns which fuse together gendered, classed and ethnic circuits of higher education. To tease out the social and regional distinctions in student migration which are suggested here, further qualitative work is needed which seeks to disaggregate these patterns at neighbourhood, school and city level.

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